FLAT AND ROUND CABLE

Product Description

Thomas & Betts flat cable provides the means to reduce mass and weight in flexible wiring assemblies. Available with PVC, TPE or FEP insulation, the cable is extruded to provide precise and uniform alignment of the conductor spacing.

Design Advantages

- Extruded PVC, TPE or FEP insulation for precise conductor spacing.
- Polarizing stripe allows easy identification of number one circuit even in twisted or irregularly curved applications.
- Thomas & Betts cable cutters and IDC termination tooling are matched to the cable tolerances to provide uniform results and trouble-free, high performance fine pitch cable assemblies.
- Available in standard .025", .050", and spread pitch configurations.
- Available in various gauge wire.
- Available in ground plane, high flex, color-coded, round to flat, twisted pair, and jacketed configurations.



.025" PITCH FLAT CABLE 136 SERIES (30 AWG SOLID PVC)

LL53375 E41651



Physical Properties

Insulation material: Flexible PVC
Color: Blue/Grey
Conductors: 30 AWG, solid bare copper

Electrical Properties

Voltage rating: 150V rms
Insulation resistance: $>10^{10}$ Ohms
Impedance: 80 Ohms
Capacitance @ 1 MHz: 62.3 pF/m (19.0 pF/ft.)
Inductance @ 1 MHz: .49 µH/m (.15 µH/ft.)
Propogation delay: 5.25 nSec/m (1.60 nSec/ft.)

Environmental Properties

Temperature rating: –20° C to 105° C

Application Tooling

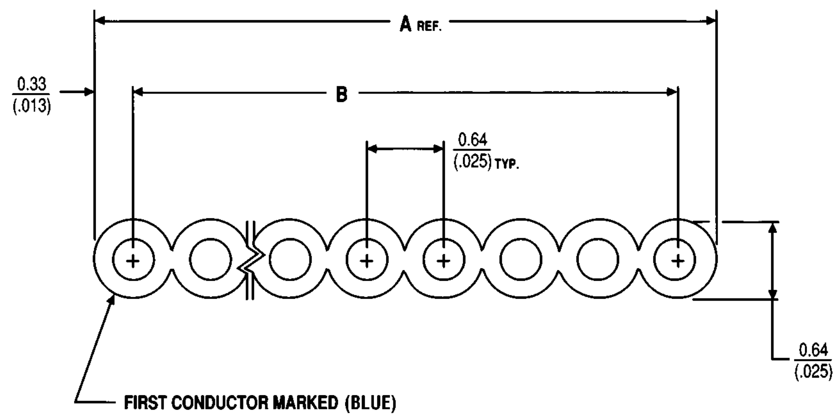
Cable Cutter: 779-5030M

Packaging

Standard: Splice free 100 foot rolls with UL/CSA markings on reels.
Optional: Other roll quantities and labeling options available. See page 129 for details.

UL Style No. 2678

UL94VW-1 Compliant



Ordering Information

NUMBER OF CONDUCTORS	CATALOG NUMBER	DIMENSIONS A	DIMENSIONS B
20	136-020	12.70 (.500)	12.07 (.475)
26	136-026	16.51 (.650)	15.88 (.625)
30	136-030	19.05 (.750)	18.42 (.725)
34	136-034	21.59 (.850)	20.96 (.825)
40	136-040	25.40 (1.000)	24.77 (.975)
50	136-050	31.75 (1.250)	31.12 (1.225)
60	136-060	38.10 (1.500)	37.47 (1.475)
68	136-068	43.18 (1.700)	42.55 (1.675)
80	136-080	50.80 (2.000)	50.17 (1.975)
100	136-100	63.50 (2.500)	62.87 (2.475)
120	136-120	76.20 (3.000)	75.57 (2.975)

.025" PITCH FLAT CABLE 137 SERIES (30 AWG STRANDED PVC)



LL53375 E41651

Physical Properties

Insulation material: Flexible PVC
Color: Blue/Grey
Conductors: 30 AWG, 7/38 tinned, stranded copper

Electrical Properties

Voltage rating: 150V rms
Insulation resistance: >10^{10} Ohms
Impedance: 70 Ohms
Capacitance @ 1 MHz: 82.0 pF/m (25.0 pF/ft.)
Inductance @ 1 MHz: .46 µH/m (.14 µH/ft.)
Propogation delay: 5.08 nSec/m (1.55 nSec/ft.)

Environmental Properties

Temperature rating: –20° C to 105° C

Application Tooling

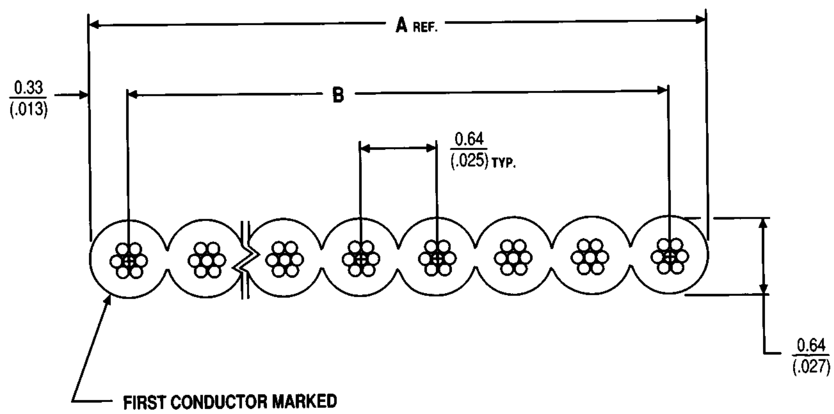
Cable Cutter: 779-5030M

Packaging

Standard: Splice free 100 foot rolls with UL/CSA markings on reels.
Optional: Other roll quantities and labeling options available. See page 129 for details.

UL Style No. 2678

UL94VW-1 Compliant



Ordering Information

NUMBER OF CONDUCTORS	CATALOG NUMBER	DIMENSIONS A	DIMENSIONS B
20	137-020	12.70 (.500)	12.07 (.475)
26	137-026	16.51 (.650)	15.88 (.625)
30	137-030	19.05 (.750)	18.42 (.725)
34	137-034	21.59 (.850)	20.96 (.825)
40	137-040	25.40 (1.000)	24.77 (.975)
50	137-050	31.75 (1.250)	31.12 (1.225)
60	137-060	38.10 (1.500)	37.47 (1.475)
68	137-068	43.18 (1.700)	42.55 (1.675)
80	137-080	50.80 (2.000)	50.17 (1.975)
100	137-100	63.50 (2.500)	62.87 (2.475)
120	137-120	76.2 (3.000)	75.57 (2.975)

.025" PITCH FLAT CABLE
131 SERIES
(30 AWG SOLID (TPE)

LL53375 E41651



PHYSICAL PROPERTIES

INSULATION MATERIAL: Thermoplastic Elastomer (TPE)
COLOR: White
CONDUCTORS: 30 AWG Solid

ELECTRICAL PROPERTIES

VOLTAGE RATING: 150V rms
INSULATION RESISTANCE: >5X10^{10} Ohms/FT
IMPEDANCE: 88 Ohms
CAPACITANCE @ 1 MHZ: 71.8 pF/m (16.5 pF/ft.)
INDUCTANCE @ 1 MHZ: .502 µH/m (.153 µH/ft.)
PROPOGATION DELAY: 4.97 ns/m (1.410 ns/ft.)
RISE TIME: 5
NEAR END %: 1.9
FAR END %: 3.1

ENVIRONMENTAL PROPERTIES

TEMPERATURE: -20° C to +105° C
(-4° F to +221° F)

APPLICATION TOOLING

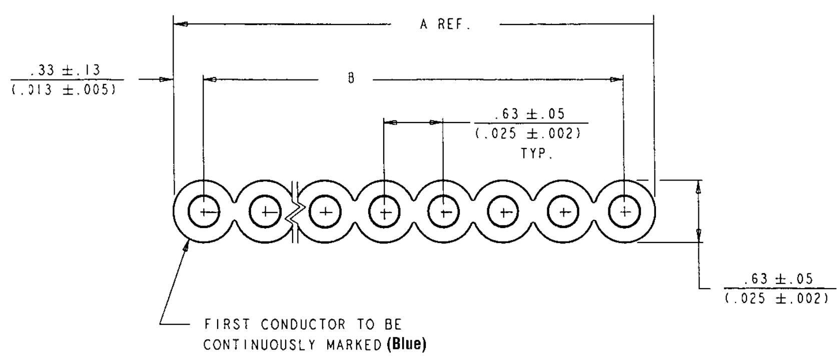
CABLE CUTTER: 779-5030M

PACKAGING

STANDARD: Splice free 100 foot rolls with UL/CSA markings on reels.
OPTIONAL: Other roll quantities and labeling options available. See page 129 for details.

UL Style No. 20650

UL94VW-1 COMPLIANT



Ordering Information

NUMBER OF CONDUCTORS	CATALOG NUMBER	DIMENSIONS A	DIMENSIONS B
20	131-020	12.70 (.500)	12.07 (.475)
26	131-026	16.51 (.650)	15.88 (.625)
30	131-030	19.05 (.750)	18.42 (.725)
34	131-034	21.59 (.850)	20.96 (.825)
40	131-040	25.40 (1.000)	24.77 (.975)
50	131-050	31.75 (1.250)	31.12 (1.225)
60	131-060	38.10 (1.500)	37.47 (1.475)
68	131-068	43.18 (1.700)	42.55 (1.675)
80	131-080	50.80 (2.000)	50.17 (1.975)
100	131-100	63.50 (2.500)	62.87 (2.475)
120	131-120	76.20 (3.000)	75.57 (2.975)

Dimensions shown are for reference only. Dimensions are in millimeters (inches).

.025" PITCH FLAT CABLE 132 SERIES (30 AWG STRANDED (TPE)

LR53375 E41651



Physical Properties

Insulation material: Thermoplastic Elastomer (TPE)
Color: White
Conductors: 30 AWG (7/38) Tinned Stranded Copper

Electrical Properties

Voltage rating: 150V rms
Insulation resistance: >1X10^{12} Ohms/FT
Impedance: 80 Ohms
Capacitance @ 1 MHz: 65.61 pF/m (17.8 pF/ft.)
Inductance @ 1 MHz: .433 µH/m (.132 µH/ft.)
Propogation delay: 4.93 ns/m (1.47 ns/ft.)
Rise time: 5
Near end %: 1.9
Far end %: 3.1

Environmental Properties

Temperature: -20° C to +105° C
(-4° F to +221° F)

Application Tooling

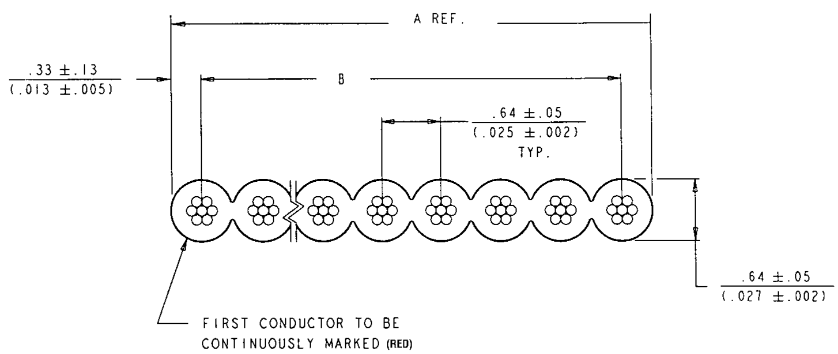
Cable Cutter: 779-5030M

Packaging

Standard: Splice free 100 foot rolls with UL/CSA markings on reels.
Optional: Other roll quantities and labeling options available. See page 129 for details.

UL Style No. 20650

UL94VW-1 Compliant



Ordering Information

NUMBER OF CONDUCTORS	CATALOG NUMBER	DIMENSIONS A	DIMENSIONS B
20	132-020	12.70 (.500)	12.07 (.475)
26	132-026	16.51 (.650)	15.88 (.625)
30	132-030	19.05 (.750)	18.42 (.725)
34	132-034	21.59 (.850)	20.96 (.825)
40	132-040	25.40 (1.000)	24.77 (.975)
50	132-050	31.75 (1.250)	31.12 (1.225)
60	132-060	38.10 (1.500)	37.47 (1.475)
68	132-068	43.18 (1.700)	42.55 (1.675)
80	132-080	50.80 (2.000)	50.17 (1.975)
100	132-100	63.50 (2.500)	62.87 (2.475)
120	132-120	76.20 (3.000)	75.57 (2.975)

Dimensions shown are for reference only. Dimensions are in millimeters (inches).

.025" PITCH FLAT CABLE 134 SERIES, FAST SCSI (30 AWG SOLID, TPO)



LR92984 E60980

PHYSICAL PROPERTIES

INSULATION MATERIAL: Thermoplastic Olefinic (TPO)
COLOR: white
CONDUCTORS: 30 AWG, solid

ELECTRICAL PROPERTIES

VOLTAGE RATING: 150V rms
INSULATION RESISTANCE: $>10^{10}$ 0hms
IMPEDANCE: 90 Ohms
CAPACITANCE @ 1 MHZ: 53 pF/M (16.0 pF/ft)
INDUCTANCE @ 1 MHZ: .43 mH/M (.13 uH/ft)
PROPAGATION DELAY: 4.43 nSec/M (1.348 nSec/ft)

ENVIRONMENTAL PROPERTIES

TEMPERATURE RATING: -20˚C TO 105°C (-4˚F to +221˚F)

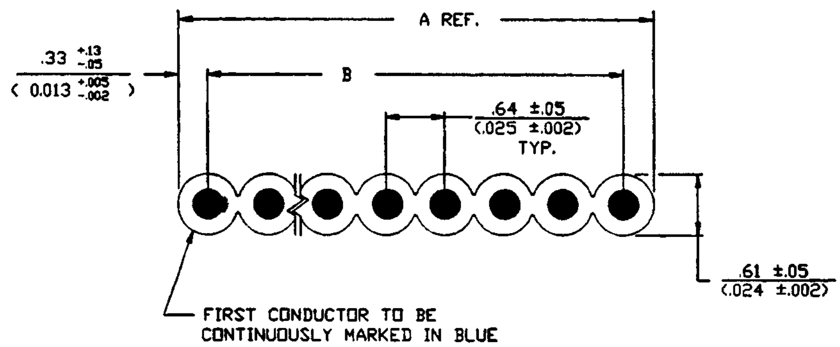
APPLICATION TOOLING

CABLE CUTTER: 779-5030M

PACKAGING

STANDARD: Splice free 100 foot rolls with UL/CSA markings on reel
OPTIONAL: Other roll quantities and labeling options available. See page 129 for details.

UL94VW-1 COMPLIANT



Ordering Information

NUMBER OF CONDUCTORS	CATALOG NUMBER	DIMENSIONS A	B
20	134-020	12.70 (.500)	12.07 (.475)
26	134-026	16.51 (.650)	15.88 (.625)
30	134-030	19.05 (.750)	18.42 (.725)
34	134-034	21.59 (.850)	20.96 (.825)
40	134-040	25.40 (1.000)	24.77 (.975)
50	134-050	31.75 (1.250)	31.12 (1.225)
60	134-060	38.10 (1.500)	37.47 (1.475)
68	134-068	43.18 (1.700)	42.55 (1.675)
80	134-080	50.80 (2.000)	50.17 (1.975)

.025" PITCH FLAT CABLE 138 SERIES, FAST SCSI (31 AWG SOLID, TPO)



LR92984 E60980

Physical Properties

Insulation Material: Thermoplastic Polyolefin (TPO)
Color: white
Conductors: 31 AWG, solid

Electrical Properties

Voltage Rating: 150V rms
Insulation Resistance: >10^{10} 0hms
Impedance: 96 Ohms
Capacitance @ 1 MHz: 49 pF/M (14.8 pF/ft)
Inductance @ 1 MHz: .50 mH/M (.15 uH/ft)
Propagation Delay: 4.43 nSec/M (1.348 nSec/ft)

Environmental Properties

Temperature Rating: -20˚C TO 105°C (-4˚F to +221˚F)

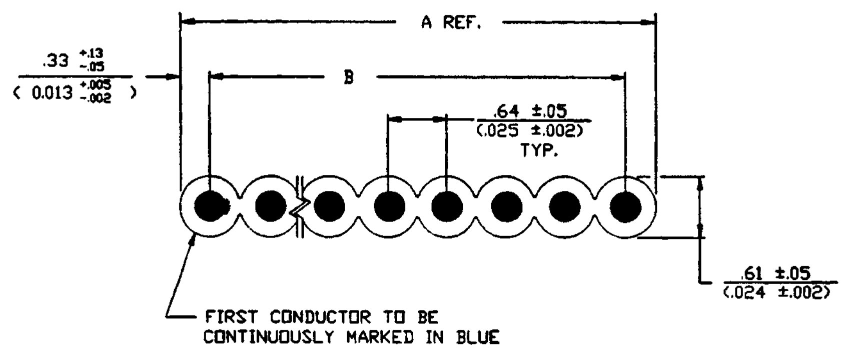
Application Tooling

Cable Cutter: 779-5030M

PACKAGING

Standard: Splice free 100 foot rolls with UL/CSA markings on reel
Optional: Other roll quantities and labeling options available. See page 129 for details.

UL94VW-1 Compliant



Ordering Information

NUMBER OF CONDUCTORS	CATALOG NUMBER	DIMENSIONS A	DIMENSIONS B
20	138-020	12.70 (.500)	12.07 (.475)
26	138-026	16.51 (.650)	15.88 (.625)
30	138-030	19.05 (.750)	18.42 (.725)
34	138-034	21.59 (.850)	20.96 (.825)
40	138-040	25.40 (1.000)	24.77 (.975)
50	138-050	31.75 (1.250)	31.12 (1.225)
60	138-060	38.10 (1.500)	37.47 (1.475)
68	138-068	43.18 (1.700)	42.55 (1.675)
80	138-080	50.80 (2.000)	50.17 (1.975)

Dimensions shown are for reference only. Dimensions are in millimeters (inches).

.025" PITCH FLAT CABLE 139 SERIES, FAST SCSI (31 AWG STRANDED, TPO)



LR92984 E60980

PHYSICAL PROPERTIES

INSULATION MATERIAL: Thermoplastic Polyolefin (TPO)
COLOR: white
CONDUCTORS: 31 AWG, (7/39) tinned stranded copper

ELECTRICAL PROPERTIES

VOLTAGE RATING: 150V rms
INSULATION RESISTANCE: >10^{10} 0hms
IMPEDANCE: 90 Ohms
CAPACITANCE @ 1 MHZ: 65.6 pF/M (16.0 pF/ft)
INDUCTANCE @ 1 MHZ: .43 mH/M (.13 uH/ft)
PROPAGATION DELAY: 4.93 nSec/M (1.32 nSec/ft)

ENVIRONMENTAL PROPERTIES

TEMPERATURE RATING: -20˚C TO 105°C (-4˚F to +221˚F)

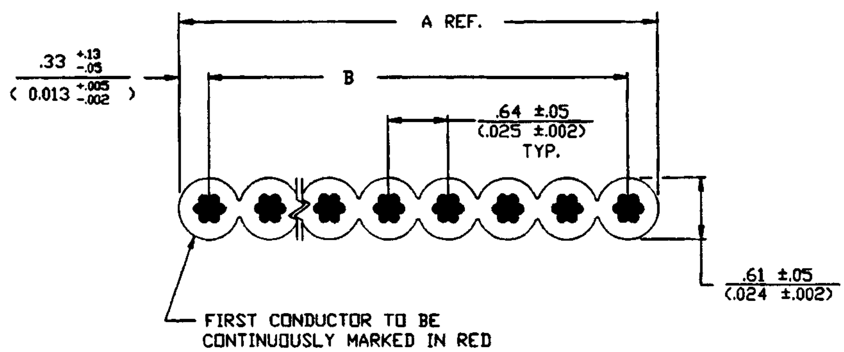
APPLICATION TOOLING

CABLE CUTTER: 779-5030M

PACKAGING

STANDARD: Splice free 100 foot rolls with UL/CSA markings on reel
OPTIONAL: Other roll quantities and labeling options available. See page 129 for details.

UL94VW-1 COMPLIANT



Ordering Information

NUMBER OF CONDUCTORS	CATALOG NUMBER	DIMENSIONS A	DIMENSIONS B
20	139-020	12.70 (.500)	12.07 (.475)
26	139-026	16.51 (.650)	15.88 (.625)
30	139-030	19.05 (.750)	18.42 (.725)
34	139-034	21.59 (.850)	20.96 (.825)
40	139-040	25.40 (1.000)	24.77 (.975)
50	139-050	31.75 (1.250)	31.12 (1.225)
60	139-060	38.10 (1.500)	37.47 (1.475)
68	139-068	43.18 (1.700)	42.55 (1.675)
80	139-080	50.80 (2.000)	50.17 (1.975)

.025" PITCH FLAT CABLE 140 SERIES (32 AWG STRANDED PTFE)

LL53375 E41651



Physical Properties

Insulation material: Extruded (PTFE) FEP
Color: Natural
Conductors: 32 AWG, 7/40 silver plated, stranded copper

Electrical Properties

Voltage rating: 150V rms
Insulation resistance: >10^{11} Ohms
Impedance: 95 Ohms
Capacitance @ 1 MHz: 42.6 pF/m (13.0 pF/ft.)
Inductance @ 1 MHz: .52 µH/m (.16 µH/ft.)
Propogation delay: 4.33 nSec/m (1.32 nSec/ft.)

Environmental Properties

Temperature rating: 200° C

Application Tooling

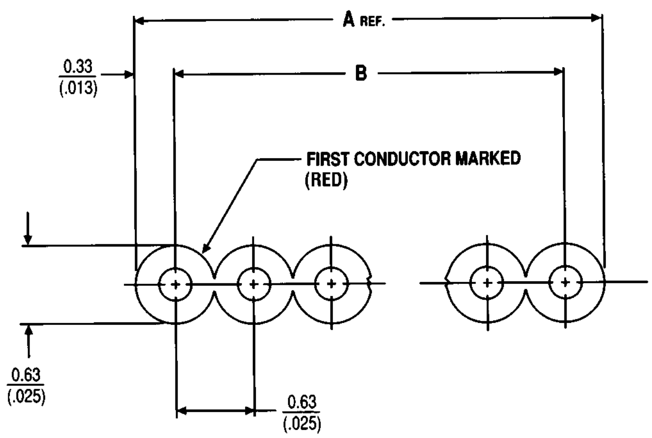
Cable Cutter: 779-5030M

Packaging

Standard: Splice free 100 foot rolls

UL Style No. 20726

UL94VW-1 Compliant



Ordering Information

NUMBER OF CONDUCTORS	CATALOG NUMBER	DIMENSIONS A	DIMENSIONS B
20	140-020	12.70 (.500)	12.07 (.475)
26	140-026	16.51 (.650)	15.88 (.625)
30	140-030	19.05 (.750)	18.41 (.725)
40	140-040	25.40 (1.000)	24.76 (.975)
50	140-050	31.75 (1.250)	31.11 (1.225)
68	140-068	43.18 (1.700)	42.54 (1.675)
80	140-080	50.80 (2.000)	50.16 (1.975)
100	140-100	63.50 (2.500)	62.86 (2.475)

Dimensions shown are for reference only. Dimensions are in millimeters (inches).

.025" PITCH FLAT CABLE 141 SERIES (30 AWG SOLID PTFE)

LL53375 E41651



Physical Properties

Insulation material: Extruded PFTE FEP
Color: Natural
Conductors: 30 AWG, silver plated, solid copper

Electrical Properties

Voltage rating: 150V rms
Insulation resistance: >10^{11} Ohms
Impedance: 90 Ohms
Capacitance @ 1 MHz: 45.9 pF/m (14.0 pF/ft.)
Inductance @ 1 MHz: .48 µH/m (.14 µH/ft.)
Propogation delay: 4.30 nSec/m (1.32 nSec/ft.)

Environmental Properties

Temperature rating: 150° C

Application Tooling

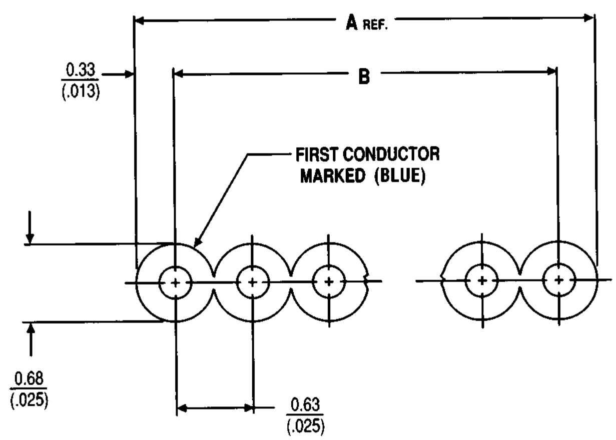
Cable Cutter: 779-5030M

Packaging

Standard: Splice free 100 foot rolls

UL Style No. 20726

UL94VW-1 Compliant



Ordering Information

NUMBER OF CONDUCTORS	CATALOG NUMBER	DIMENSIONS A	DIMENSIONS B
20	141-020	12.70 (.500)	12.07 (.475)
26	141-026	16.51 (.650)	15.88 (.625)
30	141-030	19.05 (.750)	18.41 (.725)
40	141-040	25.40 (1.000)	24.76 (.975)
50	141-050	31.75 (1.250)	31.11 (1.225)
68	141-068	43.18 (1.700)	42.54 (1.675)
80	141-080	50.80 (2.000)	50.16 (1.975)
100	141-100	63.50 (2.500)	62.86 (2.475)

Dimensions shown are for reference only. Dimensions are in millimeters (inches).

.025" PITCH JACKETED, SHIELDED FLAT CABLE 188 SERIES (30 AWG SOLID PVC)

LL53375 E41651



Physical Properties

Insulation material, Cable: Flexible PVC
Color, Cable: Blue/Grey
Insulation material, Jacket: Flexible PVC
Color, Jacket: Black
Conductors: 30 AWG, solid bare copper

Electrical Properties

Voltage rating: 150V rms
Insulation resistance: $>10^{10}$ Ohms/3m (10 ft.)
Impedance (GSG Shielded Ground): 55 Ohms
Capacitance @ 1 MHz: 98.4 pF/m (30.0 pF/ft.)
Inductance @ 1 MHz: .39 µH/m (.12 µH/ft.)
Propogation delay: 5.09 nSec/m (1.55 nSec/ft.)

Environmental Properties

Temperature rating: –20° C to 105° C

Application Tooling

Cable Cutter: 779-5030M

Features

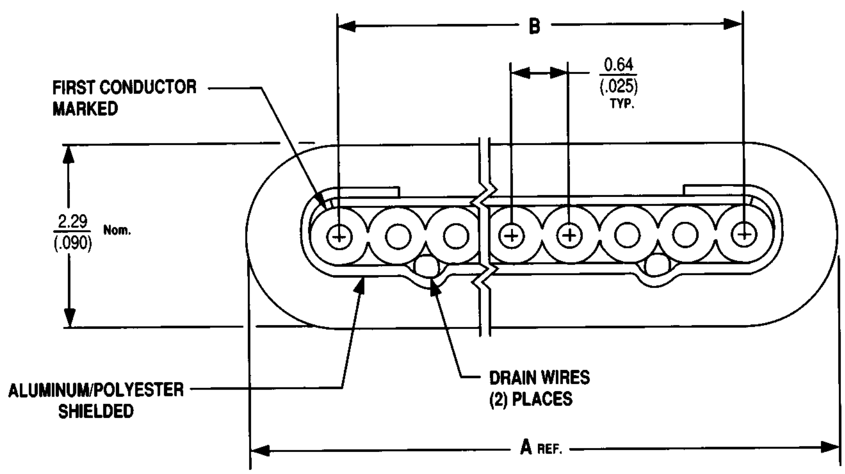
- CSA certified AWM for external wiring
- Foil shielding provides EMI/RFI protection
- Jacketing provides cable durability

Packaging

Standard: Splice free 100 foot rolls

UL Style No. 2912

UL94VW-1 Compliant



Ordering Information

NUMBER OF CONDUCTORS	CATALOG NUMBER	DIMENSIONS A	B
20	188-020	12.70 (.500)	12.07 (.475)
26	188-026	16.51 (.650)	15.88 (.625)
40	188-040	25.40 (1.000)	24.77 (.975)
50	188-050	31.75 (1.250)	31.12 (1.225)
60	188-060	38.10 (1.500)	37.47 (1.475)
68	188-068	43.18 (1.700)	42.55 (1.675)
80	188-080	50.80 (2.000)	50.17 (1.975)
100	188-100	63.50 (2.500)	62.87 (2.475)

.025" PITCH GROUND PLANE FLAT CABLE
198 SERIES
(30 AWG SOLID PVC)



LL53375 E41651

Physical Properties

Insulation material: Flexible PVC
Color: Blue/Grey
Conductors and Plane Wire: 30 AWG, solid bare copper
Ground Plane: Expanded copper mesh, .13 (.005) thick

Electrical Properties

Voltage rating: 300V rms
Insulation resistance: >10^{10} Ohms/3m (10 ft.)
Impedance (GSG Shielded Ground): 65 Ohms
Capacitance @ 1 MHz: 98.4 pF/m (30.0 pF/ft.)
Inductance @ 1 MHz: .46 µH/m (.14 µH/ft.)
Propogation delay: 5.41 nSec/m (1.65 nSec/ft.)

Environmental Properties

Temperature rating: –20° C to 105° C

Application Tooling

Cable Cutter: 779-5030M

Features

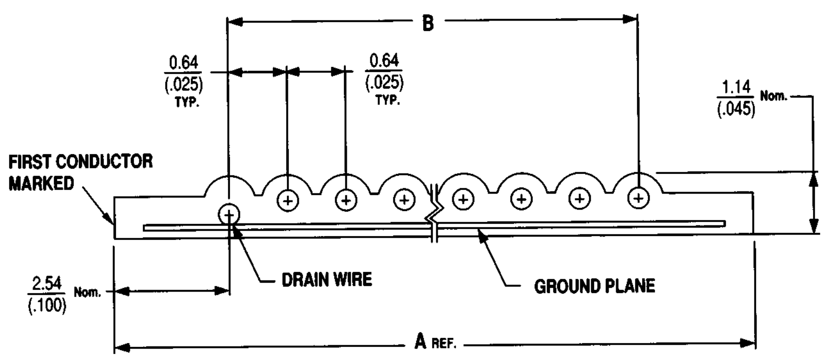
- Ground plane structure provides increased signal density and improved transmission characteristics
- Ground plane can be removed by hand for easy connector application

Packaging

Standard: Splice free 100 foot rolls

UL Style No. 2682

UL94VW-1 Compliant



Ordering Information

NUMBER OF CONDUCTORS	CATALOG NUMBER	DIMENSIONS A	DIMENSIONS B
20	198-020	12.70 (.500)	12.07 (.475)
26	198-026	16.51 (.650)	15.88 (.625)
40	198-040	25.40 (1.000)	24.77 (.975)
50	198-050	31.75 (1.250)	31.12 (1.225)
60	198-060	38.10 (1.500)	37.47 (1.475)
68	198-068	43.18 (1.700)	42.55 (1.675)
80	198-080	50.80 (2.000)	50.17 (1.975)
100	198-100	63.50 (2.500)	62.87 (2.475)

Dimensions shown are for reference only. Dimensions are in millimeters (inches).

.025" PITCH ROUND-TO-FLAT CABLE (FOIL/ BRAID/ SHIELD) 302 SERIES (30 AWG SOLID)

LL53375 E41651



Physical Properties

Insulation Material
Cable: Flexible PVC
Color, Cable: Blue/gray
Jacket: Flexible PVC
Color, Jacket: Black
Conductors: 30 AWG, solid bare copper
Distance Between Flat Termination Sections: 1.375"

Electrical Properties

Voltage Rating: 150V ms
Insulation Resistance: > 10 Ohms/3m (10 ft.)
Impedance @ 1MHz: 88.6 pF/m (27.0 pF/ft.)
Inductance @ 1MHz: .39 uH/m (.12 uH/ft.)
Propagation Delay: 5.25 nSec/m (1.60 nSec/ft.)

Environmental Properties

Temperature Rating: -20° C to 105° C

Application Tooling

Cable Cutter: 779-5030M
Packaged on splice-free 100' rolls.

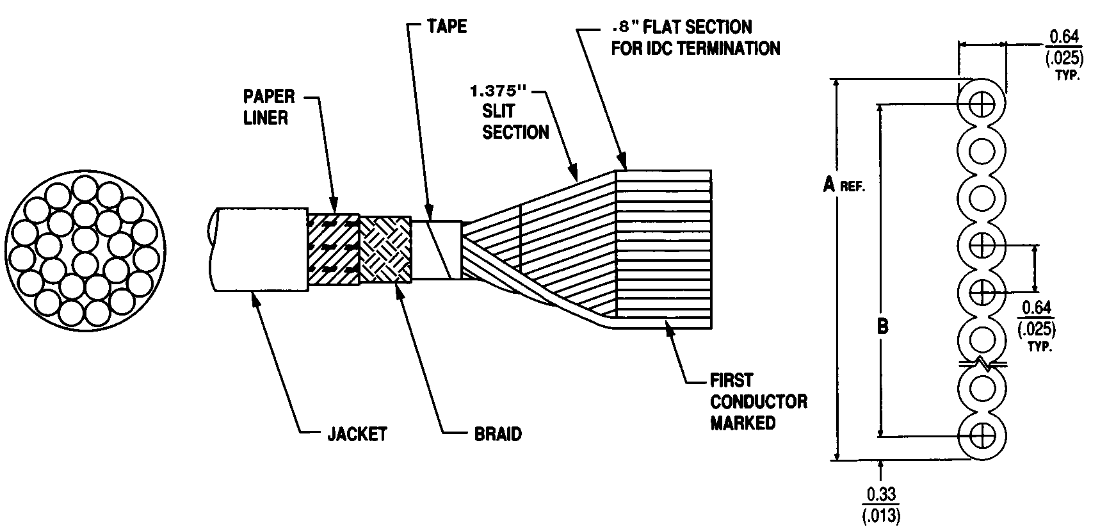
Features

- PVC jacket prevents damage in external applications
- Round cross-section allows maximum system airflow
- Shielding braid provides EMI / RFI protection
- Alternating flat and slit sections along cable length allow mass termination of IDC connector without the need for lamination or lacing equipment

UL94VW-1 Compliant

Ordering Information **Reference**

NUMBER OF CONDUCTORS	CATALOG NUMBER	DIMENSIONS A	DIMENSIONS B
26	302-026	16.51 (.650)	15.88 (.625)
40	302-040	25.40 (1.000)	24.77 (.975)
50	302-050	31.75 (1.250)	31.12 (1.225)
60	302-060	38.10 (1.500)	37.47 (1.475)
68	302-068	43.18 (1.700)	42.55 (1.675)
80	302-080	50.80 (2.000)	50.17 (1.975)
100	302-100	63.50 (2.500)	62.87 (2.475)



Dimensions shown are for reference only. Dimensions are in millimeters (inches).

TRANSITION CABLE ONE SPREAD END .025" TO .050" (30 AWG SOLID PVC)

LL58162 E47817



Physical Properties

Insulation material: Flexible PVC
Color: Blue/Grey
Conductors: 30 AWG, solid bare copper

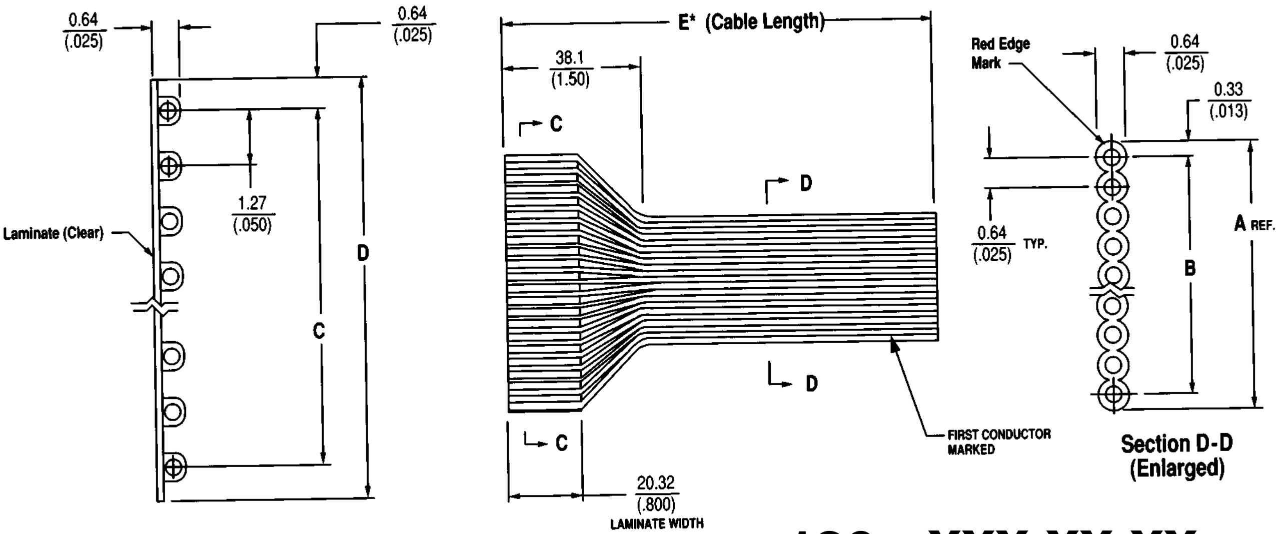
Electrical Properties

Voltage rating: 150V rms
Insulation resistance: >10^{10} Ohms
Impedance: 80 Ohms
Capacitance @ 1 MHz: 62.3 pF/m (19.0 pF/ft.)
Inductance @ 1 MHz: .49 µH/m (.15 µH/ft.)
Propogation delay: 5.25 nSec/m (1.60 nSec/ft.)

Environmental Properties

Temperature rating: –20° C to 105° C

UL94VW-1 Compliant



Section C-C (Enlarged)

Section D-D (Enlarged)

136 - XXX XX XX

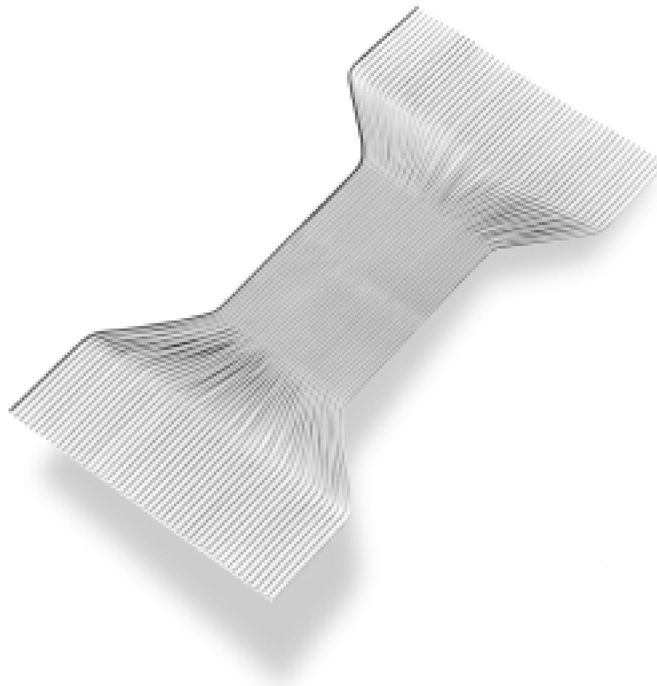
of Conductors — *Length in Feet* — *Length in Inches*

Ordering Information

NUMBER OF CONDUCTORS	CATALOG NUMBER	A	B	DIMENSIONS C	D	E*
20	136-020-0100	12.70 (.500)	12.07 (.475)	24.13 (.950)	25.40 (1.000)	305 (12.0)
26	136-026-0100	16.51 (.650)	15.88 (.625)	31.75 (1.250)	33.02 (1.300)	305 (12.0)
30	136-030-0100	19.05 (.750)	18.42 (.725)	36.83 (1.450)	38.10 (1.500)	305 (12.0)
34	136-034-0100	21.59 (.850)	20.96 (.825)	41.91 (1.650)	43.18 (1.700)	305 (12.0)
40	136-040-0100	25.40 (1.000)	24.77 (.975)	49.53 (1.950)	50.80 (2.000)	305 (12.0)
50	136-050-0100	31.75 (1.250)	31.12 (1.225)	62.23 (2.450)	63.50 (2.500)	305 (12.0)
60	136-060-0100	38.10 (1.500)	37.47 (1.475)	74.93 (2.950)	76.20 (3.000)	305 (12.0)

* Other custom cable lengths available on request.

TRANSITION CABLE TWO SPREAD ENDS .050" TO .025" TO .050" (30 AWG SOLID PVC)



LL58162 E47817

Physical Properties

Insulation material: Flexible PVC
Color: Blue/Grey
Conductors: 30 AWG, solid bare copper

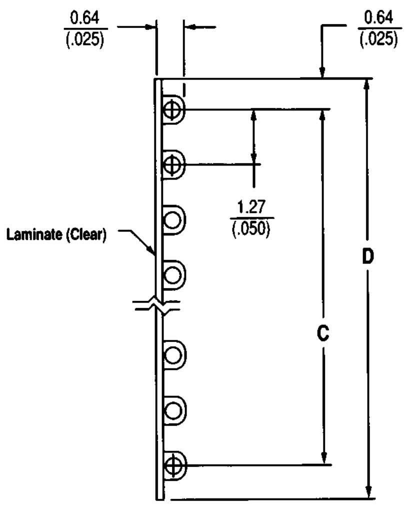
Electrical Properties

Voltage rating: 150V rms
Insulation resistance: $>10^{10}$ Ohms
Impedance: 80 Ohms
Capacitance @ 1 MHz: 62.3 pF/m (19.0 pF/ft.)
Inductance @ 1 MHz: .49 μH/m (.15 μH/ft.)
Propogation delay: 5.25 nSec/m (1.60 nSec/ft.)

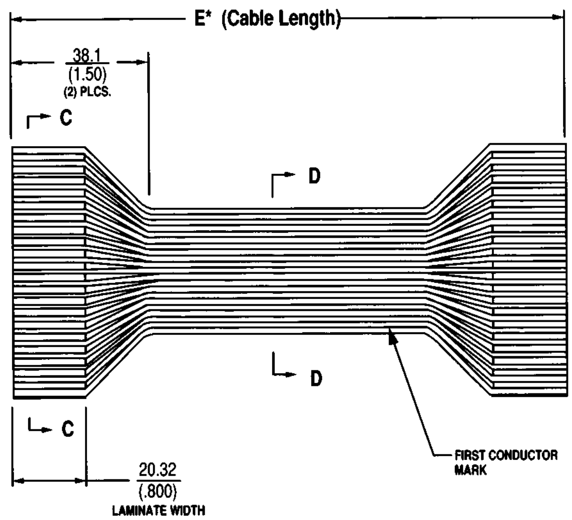
Environmental Properties

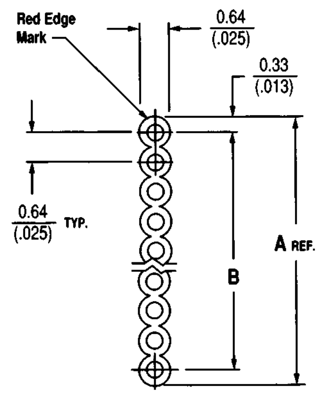
Temperature rating: –20° C to 105° C

UL94VW-1 Compliant



Section C-C (Enlarged)





Section D-D (Enlarged)

136 - XXX XX XX

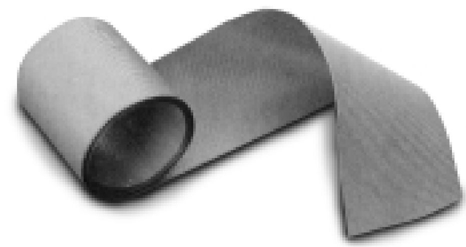
of Conductors — *Length in Feet* — *Length in Inches*

Ordering Information

NUMBER OF CONDUCTORS	CATALOG NUMBER	DIMENSIONS A	B	C	D	E*
20	136-020-0100D	12.70 (.500)	12.07 (.475)	24.13 (.950)	25.40 (1.000)	305 (12.0)
26	136-026-0100D	16.51 (.650)	15.88 (.625)	31.75 (1.250)	33.02 (1.300)	305 (12.0)
30	136-030-0100D	19.05 (.750)	18.42 (.725)	36.83 (1.450)	38.10 (1.500)	305 (12.0)
34	136-034-0100D	21.59 (.850)	20.96 (.825)	41.91 (1.650)	43.18 (1.700)	305 (12.0)
40	136-040-0100D	25.40 (1.000)	24.77 (.975)	49.53 (1.950)	50.80 (2.000)	305 (12.0)
50	136-050-0100D	31.75 (1.250)	31.12 (1.225)	62.23 (2.450)	63.50 (2.500)	305 (12.0)
60	136-060-0100D	38.10 (1.500)	37.47 (1.475)	74.93 (2.950)	76.20 (3.000)	305 (12.0)

* Other custom cable lengths available on request.

.050" PITCH FLAT CABLE
SERIES 171 – 28 AWG (7/36) STRANDED



LL53375 E41651

PHYSICAL PROPERTIES

INSULATION MATERIAL: PVC
CONDUCTORS: 28 AWG, Stranded
CONDUCTOR SPACING MM (IN): 1.27 (.050)

ELECTRICAL PROPERTIES

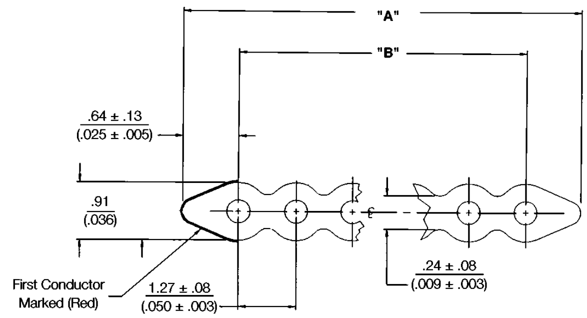
VOLTAGE RATING: 300V rms
INSULATION RESISTANCE: >10^{10} Ohms
IMPEDANCE: 100 Ohms
CAPACITANCE @ 1 MHZ: 46 pF/m (14.0 pF/ft.)
INDUCTANCE @ 1 MHZ: .46 µH/m (.14 µH/ft.)
PROPOGATION DELAY: 4.53 nSec/m (1.38 nSec/ft.)

ENVIRONMENTAL PROPERTIES

TEMPERATURE RATING: 105° C

PACKAGING

STANDARD: Splice free 100 foot rolls with UL/CSA markings on reels
OPTIONAL: Other roll quantities and labeling options available. See page 129 for details.



Accumulation of pitch tolerance between conductors in entire cable may not exceed tolerance of dim. "B".

TYPICAL CROSSTALK CHARACTERISTICS: 10FT Sample, 1 line driven, 1 line sensed

Test Method	G-S-G	G-G-S-G-G
Rise Time nSec	3.0	7.0
Near End (%)	5.0	3.2
Far End (%)	6.7	2.7

UL Style No. 2651

UL94VW-1 COMPLIANT

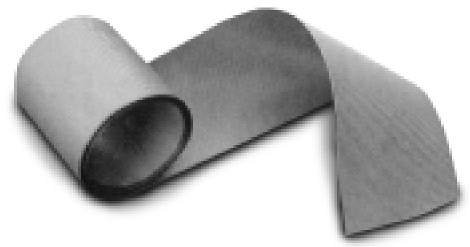
Ordering Information

28 GAUGE STRANDED	NO. OF POS.	DIMENSIONS IN MM (INCHES) A	B	B TOLERANCE
171-9	9	11.43 (.450)	10.16 (.400)	
171-10ED	10	12.70 (.500)	11.43 (.450)	± .18 (±.007)
171-12	12	15.24 (.600)	13.97 (.550)	
171-14	14	17.78 (.7 00)	16.51 (.650)	
171-15	15	19.05 (.750)	17.78 (.700)	
171-16	16	20.32 (.800)	19.05 (.750)	
171-20	20	25.40 (1.000)	24.13 (.950)	
171-24ED	24	30.48 (1.200)	29.21 (1.150)	
171-25	25	31.75 (1.250)	30.48 (1.200)	± .25 (±.010)
171-26	26	33.02 (1.300)	31.75 (1.250)	
171-28	28	35.56 (1.400)	34.29 (1.350)	
171-30ED	30	38.10 (1.500)	36.83 (1.450)	
171-34	34	43.18 (1.700)	41.91 (1.650)	
171-36	36	45.72 (1.800)	44.45 (1.750)	
171-37	37	46.99 (1.850)	45.72 (1.800)	
171-40ED	40	50.80 (2.000)	49.53 (1.950)	
171-44	44	55.88 (2.200)	54.61 (2.150)	± .38 (±.015)
171-50	50	63.50 (2.500)	62.23 (2.450)	
171-56	56	71.12 (2.800)	69.85 (2.750)	
171-60	60	76.20 (3.000)	74.93 (2.950)	
171-64	64	81.28 (3.200)	80.01 (3.150)	

Dimensions shown are for reference only. Dimensions are in millimeters (inches).



.050" Pitch Flat Cable
Series 173 – 28 AWG Solid



LL53375 E41651

Physical Properties

Insulation material: PVC
Conductors: 28 AWG, Solid
Conductor Spacing mm (in): 1.27 (.050)

Electrical Properties

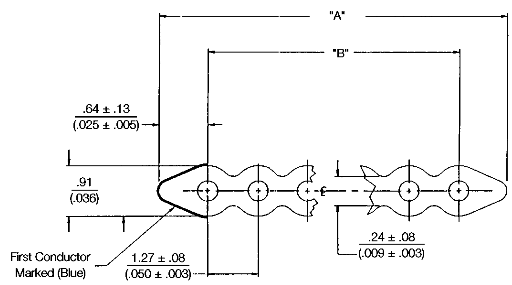
Voltage rating: 300V rms
Insulation resistance: >10^{10} Ohms
Impedance: 105 Ohms
Capacitance @ 1 MHz: 44.3 pF/m (13.5 pF/ft.)
Inductance @ 1 MHz: .49 µH/m (.15 µH/ft.)
Propogation delay: 4.53 nSec/m (1.38 nSec/ft.)

Environmental Properties

Temperature rating: 105° C

Packaging

Standard: Splice free 100 foot rolls with UL/CSA markings on reels
Optional: Other roll quantities and labeling options available. See page 129 for details.



Accumulation of pitch tolerance between conductors in entire cable may not exceed tolerance of dim. "B".

Typical Crosstalk Characteristics: 10FT Sample, 1 line driven, 1 line sensed

Test Method	G-S-G	G-G-S-G-G
Rise Time nSec	3.0	7.0
Near End (%)	4.8	3.1
Far End (%)	7.3	2.9

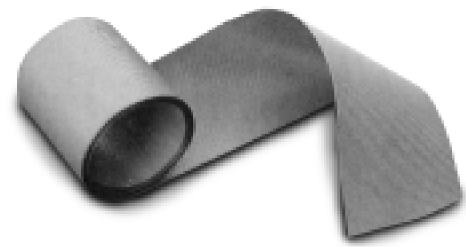
UL Style No. 2651

UL94VW-1 Compliant

Ordering Information

CATALOG NUMBERS 28 GAUGE SOLID	NO. OF POS.	DIMENSIONS IN MM (INCHES) A	B	B TOLERANCE
173-9	9	11.43 (.450)	10.16 (.400)	
173-10	10	12.70 (.500)	11.43 (.450)	± .18 (±.007)
—	12	15.24 (.600)	13.97 (.550)	
173-14	14	17.78 (.7 00)	16.51 (.650)	
173-15	15	19.05 (.750)	17.78 (.700)	
173-16	16	20.32 (.800)	19.05 (.750)	
173-20	20	25.40 (1.000)	24.13 (.950)	
173-24	24	30.48 (1.200)	29.21 (1.150)	± .25 (±.010)
173-25	25	31.75 (1.250)	30.48 (1.200)	
173-26	26	33.02 (1.300)	31.75 (1.250)	
—	28	35.56 (1.400)	34.29 (1.350)	
—	30	38.10 (1.500)	36.83 (1.450)	
173-34	34	43.18 (1.700)	41.91 (1.650)	
—	36	45.72 (1.800)	44.45 (1.750)	
173-37	37	46.99 (1.850)	45.72 (1.800)	
173-40	40	50.80 (2.000)	49.53 (1.950)	
173-44	44	55.88 (2.200)	54.61 (2.150)	± .38 (±.015)
173-50	50	63.50 (2.500)	62.23 (2.450)	
173-56	56	71.12 (2.800)	69.85 (2.750)	
173-60	60	76.20 (3.000)	74.93 (2.950)	
—	64	81.28 (3.200)	80.01 (3.150)	

.050" Pitch Flat Cable
Series 179 – 26 AWG (7/34) Stranded



LL53375 E41651

Physical Properties

Insulation material: PVC
Conductors: 26 AWG, Stranded
Conductor Spacing mm (in): 1.27 (.050)

Electrical Properties

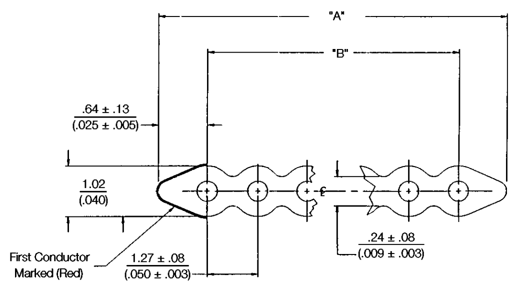
Voltage rating: 300V rms
Insulation resistance: >10^{10} Ohms
Impedance: 93 Ohms
Capacitance @ 1 MHz: 49.5 pF/m (15.1 pF/ft.)
Inductance @ 1 MHz: .43 µH/m (.13 µH/ft.)
Propogation delay: 4.43 nSec/m (1.35 nSec/ft.)

Environmental Properties

Temperature rating: 105° C

Packaging

Standard: Splice free 100 foot rolls with UL/CSA markings on reels
Optional: Other roll quantities and labeling options available. See page 129 for details.



Accumulation of pitch tolerance between conductors in entire cable may not exceed tolerance of dim. "B".

Typical Crosstalk Characteristics: 10FT Sample, 1 line driven, 1 line sensed

Test Method	G-S-G	G-G-S-G-G
Rise Time nSec	3.0	7.0
Near End (%)	5.2	3.8
Far End (%)	6.1	2.3

UL Style No. 2651

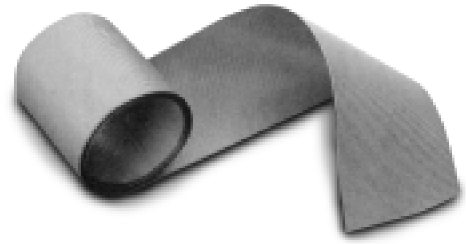
UL94VW-1 Compliant

Ordering Information

26 GAUGE SOLID	NO. OF POS.	DIMENSIONS IN MM (INCHES) A	B	B TOLERANCE
179-9	9	11.43 (.450)	10.16 (.400)	
—	10	12.70 (.500)	11.43 (.450)	± .18 (±.007)
—	12	15.24 (.600)	13.97 (.550)	
179-14	14	17.78 (.7 00)	16.51 (.650)	
179-15	15	19.05 (.750)	17.78 (.700)	
179-16	16	20.32 (.800)	19.05 (.750)	
179-20	20	25.40 (1.000)	24.13 (.950)	
179-24	24	30.48 (1.200)	29.21 (1.150)	
179-25	25	31.75 (1.250)	30.48 (1.200)	± .25 (±.010)
179-26	26	33.02 (1.300)	31.75 (1.250)	
—	28	35.56 (1.400)	34.29 (1.350)	
179-30	30	38.10 (1.500)	36.83 (1.450)	
179-34	34	43.18 (1.700)	41.91 (1.650)	
179-36	36	45.72 (1.800)	44.45 (1.750)	
—	37	46.99 (1.850)	45.72 (1.800)	
179-40	40	50.80 (2.000)	49.53 (1.950)	
179-44	44	55.88 (2.200)	54.61 (2.150)	± .38 (±.015)
179-50	50	63.50 (2.500)	62.23 (2.450)	
—	56	71.12 (2.800)	69.85 (2.750)	
—	60	76.20 (3.000)	74.93 (2.950)	
—	64	81.28 (3.200)	80.01 (3.150)	

.050" Pitch TPE Flat Cable
Series 177 – 28 AWG Stranded

LL53375 E41651

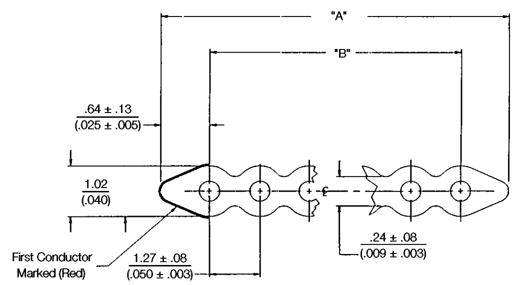


Physical Properties
Insulation material: TPE
Conductors: 28 AWG, Stranded
Conductor Spacing mm (in): 1.27 (.050)

Electrical Properties
Voltage rating: 300V rms
Insulation resistance: >10^{10} Ohms
Impedance: 96 Ohms
Capacitance @ 1 MHz: 53 pF/m (16.0 pF/ft.)
Inductance @ 1 MHz: .51 µH/m (.16 µH/ft.)
Propogation delay: 4.53 nSec/m (1.38 nSec/ft.)

Environmental Properties
Temperature rating: 105° C

Packaging
Standard: Splice free 100 foot rolls with UL/CSA markings on reels
Optional: Other roll quantities and labeling options available. See page 129 for details.



Accumulation of pitch tolerance between conductors in entire cable may not exceed tolerance of dim. "B".

Typical Crosstalk Characteristics: 10FT Sample, 1 line driven, 1 line sensed

Test Method	G-S-G	G-G-S-G-G
Rise Time nSec	3.0	7.0
Near End (%)	5.0	3.2
Far End (%)	6.7	2.7

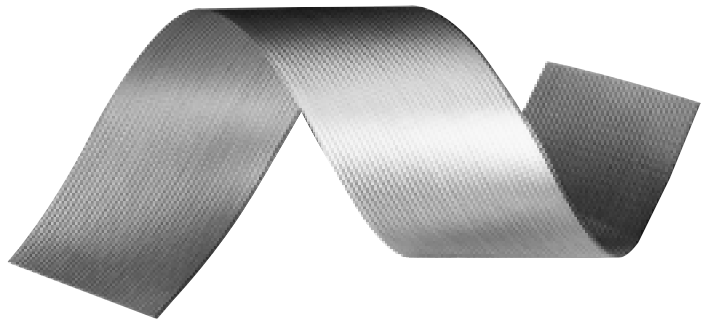
UL Style No. 2651

UL94VW-1 Compliant

Ordering Information

CATALOG NUMBERS	NUMBER OF CONDUCTORS	DIMENSIONS IN MM (INCHES) A	B	B TOLERANCE
177-9	9	11.43 (.450)	10.16 (.400)	
177-10	10	12.70 (.500)	11.43 (.450)	± .18 (±.007)
177-14	14	17.78 (.7 00)	16.51 (.650)	
177-16	16	20.32 (.800)	19.05 (.750)	
177-18	18	22.86 (.900)	21.59 (.850)	
177-20	20	25.40 (1.000)	24.13 (.950)	
177-22	22	27.94 (1.100)	26.67 (1.050)	± .25 (±.010)
177-24	24	30.48 (1.200)	29.21 (1.150)	
177-26	26	33.02 (1.300)	31.75 (1.250)	
177-34	34	43.18 (1.700)	41.91 (1.650)	
177-40	40	50.80 (2.000)	49.53 (1.950)	
177-50	50	63.50 (2.500)	62.23 (2.450)	± .38 (±.015)
177-64	64	81.28 (3.200)	80.01 (3.150)	

.050" (1.27MM) PITCH HALOGEN-FREE CABLE SERIES 199 28 AWG (7/36) STRANDED



LR92984 E60980

Physical Properties

Wire Size AWG: 28 Stranded (7 x 36)
Insulation Material: halogen-free Polyolefin compound
Conductor Spacing Inches (mm): .050 (1.27)
Impedance (Ω): 100 ± 5 Ohms
Capacitance (pf/ft): 15
Propagation Delay (nS/ft): 1.50
Toxicity Index: 1.0
Acid Gas Generation: < 1%
Halogen Content: < .1 (MIL-C-24643)

Electrical Properties

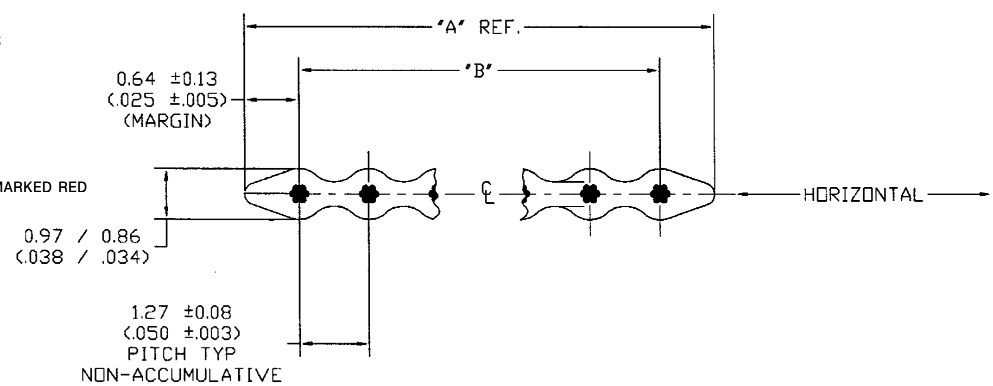
Voltage Rating (Vrms): 300

Environmental Properties

Temperature Rating: -40°C TO 105°C
Flammability: VW-1

UL94VW-1 Compliant

NOTE: Outer conductor marked red



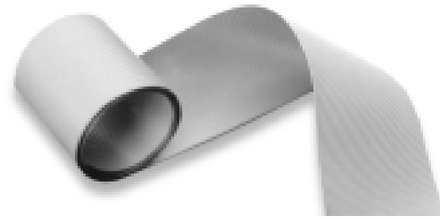
Ordering Information

CATALOG NUMBERS	NUMBER OF CONDUCTORS	DIMENSIONS IN MM (INCHES) A	B
199-09	9	11.43 (.450)	10.16 (.400)
199-10	10	12.70 (.500)	11.43 (.450)
199-14	14	17.78 (.700)	16.51 (.650)
199-16	16	20.32 (.800)	19.05 (.750)
199-20	20	25.40 (1.00)	24.13 (.950)
199-26	26	33.02 (1.30)	31.75 (1.25)
199-30	30	38.10 (1.50)	36.83 (1.45)
199-34	34	43.18 (1.85)	41.91 (1.65)
199-40	40	50.80 (2.00)	49.53 (1.95)
199-50	50	63.50 (2.50)	62.23 (2.45)

.050" Pitch High Flex Life Flat Cable

Series 185 – 28 AWG Stranded (19/40) Stranded

LL53375 E41651





Physical Properties

Insulation material: PVC
Conductors: 28 AWG, (19/40) Stranded
Conductors Spacing mm (in): 1.27 (.050)

Electrical Properties

Voltage rating: 300V rms
Insulation resistance: $>10^{10}$ Ohms
Impedance: 96 Ohms
Capacitance @ 1 MHz: 53 pF/m (16.0 pF/ft.)
Inductance @ 1 MHz: .51 µH/m (.16 µH/ft.)
Propogation delay: 4.53 nSec/m (1.38 nSec/ft.)

Environmental Properties

Temperature rating: 105° C

Features

- Special 19/40 Conductor Stranding for Superior Flex Life; approx. 50 million cycles (1-1/2" loop)

Packaging

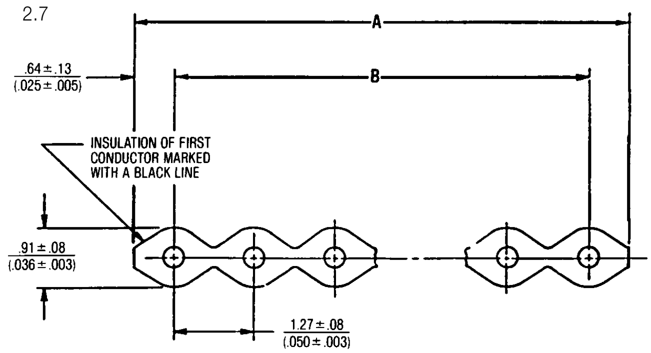
Standard: Splice free 100 foot rolls with UL/CSA markings on reels
Optional: Other roll quantities and labeling options available. See page 129 for details.

Typical Crosstalk Characteristics: 10FT Sample, 1 line driven, 1 line sensed

Test Method	G-S-G	G-G-S-G-G
Rise Time nSec	3.0	7.0
Near End (%)	5.0	3.2
Far End (%)	6.7	2.7

UL Style No. 2651

UL94VW-1 Compliant

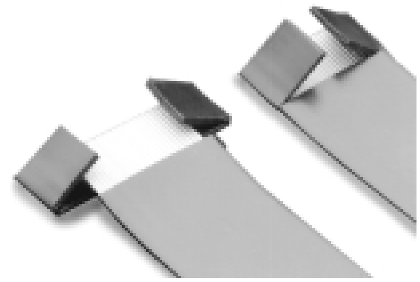


Ordering Information

CATALOG NUMBERS	NUMBER OF CONDUCTORS	DIMENSIONS IN MM (INCHES) A	B	B TOLERANCE
185-09	9	11.43 (.450)	10.16 (.400)	±.18 (.007)
185-10	10	12.70 (.500)	11.43 (.450)	±.18 (.007)
185-14	14	17.78 (.700)	16.51 (.650)	±.18 (.007)
185-16	16	20.32 (.800)	19.05 (.750)	±.25 (.010)
185-18	18	22.86 (.900)	21.59 (.850)	±.25 (.010)
185-20	20	25.40 (1.000)	24.13 (.950)	±.25 (.010)
185-22	22	27.94 (1.100)	26.67 (1.050)	±.25 (.010)
185-24	24	30.48 (1.200)	29.21 (1.150)	±.25 (.010)
185-26	26	33.02 (1.300)	31.75 (1.250)	±.25 (.010)
185-34	34	43.18 (1.700)	41.91 (1.650)	±.25 (.010)
185-40	40	50.80 (2.000)	49.53 (1.950)	±.38 (.015)
185-50	50	63.50 (2.500)	62.23 (2.450)	±.38 (.015)

.050" Pitch Jacketed Flat Cable
Series 174 – 28 AWG (7/36) Stranded

LL53375 E41651



Physical Properties

Insulation material: Polyethylene with PVC Jacket
Conductors: 28 AWG, Stranded
Conductor Spacing mm (in): 1.27 (.050)

Electrical Properties

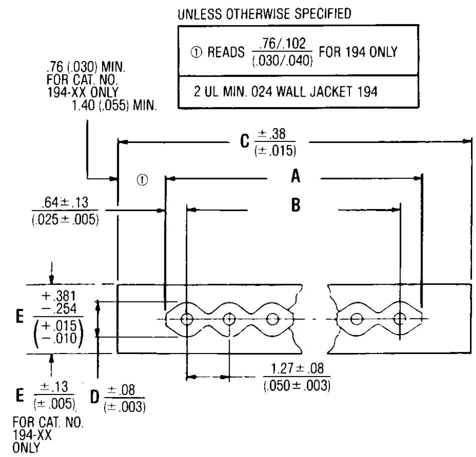
Voltage rating: 90V rms
Insulation resistance: >10^{10} Ohms
Impedance: 93 Ohms
Capacitance @ 1 MHz: 63.0 pF/m (19.2 pF/ft.)
Inductance @ 1 MHz: .56 μH/m (.17 μH/ft.)
Propogation delay: 5.25 nSec/m (1.60 nSec/ft.)

Environmental Properties

Temperature rating: 75° C

Packaging

Standard: Splice free 100 foot rolls with UL/CSA markings on reels
Optional: Other roll quantities and labeling options available. See page 129 for details.



Typical Crosstalk Characteristics: 10FT Sample, 1 line driven, 1 line sensed

Test Method	G-S-G	G-G-S-G-G
Rise Time nSec	3.0	7.0
Near End (%)	4.5	4.1
Far End (%)	—	2.0

UL Style No. 2604

UL94VW-1 Compliant

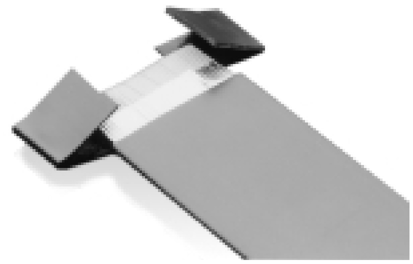
CABLE SERIES	DIMENSIONS IN MM (INCHES) D	E
174	.86 (.034)	4.19 (.165)

Ordering Information

NO. OF CONDUCTORS CABLESTRANDED	SERIES 174 28 GAUGE	DIMENSIONS IN MM (INCHES) A	B	B TOLERANCE	C
9	174-09	11.43 (.450)	10.16 (.400)		14.48 (.570)
10	174-10	12.70 (.500)	11.43 (.450)	± .18 (.007)	15.75 (.620)
14	174-14	17.78 (.700)	16.51 (.650)		20.83 (.820)
15	174-15	19.05 (.750)	17.78 (.700)		22.10 (.870)
16	174-16	20.32 (.800)	19.05 (.750)		23.37 (.920)
20	174-20	25.40 (1.000)	24.13 (.950)		28.45 (1.120)
24	174-24	30.48 (1.200)	29.21 (1.150)		33.53 (1.320)
25	174-25	31.75 (1.250)	30.48 (1.200)	±.25 (.010)	34.80 (1.370)
26	174-26	33.02 (1.300)	31.75 (1.250)		36.07 (1.420)
34	174-34	43.18 (1.700)	41.91 (1.650)		46.23 (1.820)
36	174-36	45.72 (1.800)	44.45 (1.750)		48.77 (1.920)
37	174-37	46.99 (1.850)	45.72 (1.800)		50.04 (1.970)
40	174-40	50.80 (2.000)	49.53 (1.950)		53.85 (2.120)
44	174-44	55.88 (2.200)	54.61 (2.150)		58.93 (2.320)
50	174-50	63.50 (2.500)	62.23 (2.450)		66.55 (2.620)
56	174-56	71.12 (2.800)	69.85 (2.650)	±.38 (.015)	74.17 (2.920)
60	174-60	76.20 (3.000)	74.93 (2.950)		79.25 (3.120)
64	174-64	81.28 (3.200)	80.01 (3.150)		84.33 (3.320)

.050" Pitch Jacketed Shielded Flat Cable
Series 187 – 28 AWG (7/36) Stranded

LL53375 E41651



Physical Properties

Insulation material: PVC
Conductors: 28 AWG, Stranded
Conductor Spacing mm (in): 1.27 (.050)

Electrical Properties

Voltage rating: 300V rms
Impedance: 40 Ohms
Capacitance @ 1 MHz: 164.0 pF/m (50.0 pF/ft.)
Propogation delay: 5.57 nSec/m (1.70 nSec/ft.)

Environmental Properties

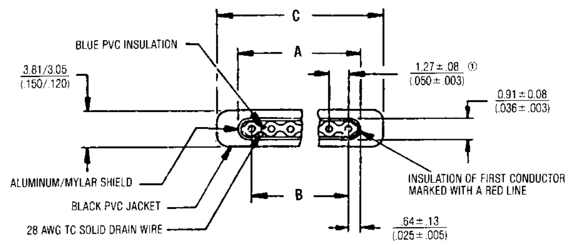
Temperature rating: 105° C

Packaging

Standard: Splice free 100 foot rolls with UL/CSA markings on reels
Optional: Other roll quantities and labeling options available. See page 129 for details.

UL Style No. 20529

UL94VW-1 Compliant



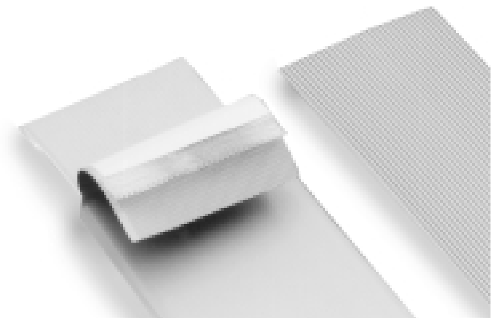
Ordering Information

CATALOG NUMBERS	NUMBER OF CONDUCTORS	DIMENSIONS IN MM (INCHES) A	B	B TOLERANCE	C ± .51 (±.02)
187-09	9	11.43 (.450)	10.16 (.400)	± .18 (.007)	14.73 (.580)
187-10	10	12.70 (.500)	11.43 (.450)	± .18 (.007)	16.00 (.630)
187-14	14	17.78 (.700)	16.51 (.650)	±.18 (.007)	21.08 (.830)
187-15	15	19.05 (.750)	17.78 (.700)	±.25 (.010)	22.35 (.880)
187-16	16	20.32 (.800)	19.05 (.750)	±.25 (.010)	23.62 (.930)
187-20	20	25.40 (1.000)	24.13 (.950)	±.25 (.010)	28.70 (1.130)
187-24	24	30.48 (1.200)	29.21 (1.150)	±.25 (.010)	33.78 (1.330)
187-25	25	31.75 (1.250)	30.48 (1.200)	±.25 (.010)	35.05 (1.380)
187-26	26	33.02 (1.300)	31.75 (1.250)	±.25 (.010)	36.32 (1.530)
187-34	34	43.18 (1.700)	41.91 (1.650)	±.25 (.010)	46.48 (1.830)
187-36	36	45.72 (1.800)	44.45 (1.750)	±.25 (.010)	49.02 (1.930)
187-37	37	46.99 (1.850)	45.72 (1.800)	±.25 (.010)	50.29 (1.980)
187-40	40	50.80 (2.000)	49.53 (1.950)	±.38 (.015)	54.10 (2.130)
187-44	44	55.88 (2.200)	54.61 (2.150)	±.38 (.015)	59.18 (2.330)
187-50	50	63.50 (2.500)	62.23 (2.450)	±.38 (.015)	66.80 (2.630)
187-56	56	71.12 (2.800)	69.85 (2.750)	±.38 (.015)	74.42 (2.930)
187-60	60	76.20 (3.000)	74.93 (2.950)	±.38 (.015)	79.50 (3.130)
187-64	64	81.28 (3.200)	80.01 (3.150)	±.38 (.015)	84.58 (3.330)

.050" Pitch Ground Plane Flat Cable

Series 196 – 28 AWG (7/36) Stranded

LL53375 E41651



Physical Properties

Insulation material: PVC
Conductors: 28 AWG (7/36), Stranded
Conductor Spacing mm (in): 1.27 (.050)

Electrical Properties

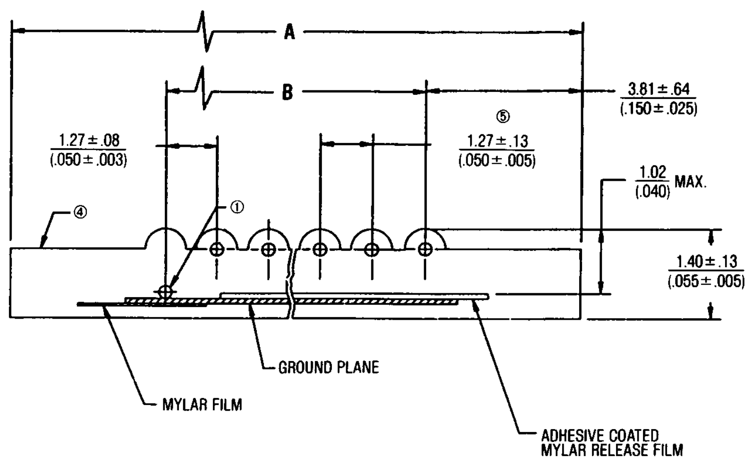
Voltage rating: 300V rms
Impedance: 66 Ohms
Capacitance @ 1 MHz: 95.0 pF/m (29.0 pF/ft.)
Propogation delay: 6.07 nSec/m (1.85 nSec/ft.)

Environmental Properties

Temperature rating: 105° C

UL Style No. 20218

UL94VW-1 Compliant



Ordering Information

		DIMENSIONS IN MM (INCHES)		
CATALOG NUMBERS	NUMBER OF CONDUCTORS	A ±2.54 (.10)	B	B TOLERANCE
196-14	14	24.13 (.95)	16.51 (.650)	±.25 (.007)
196-20	20	31.75 (1.25)	24 13 (.950)	±.25 (.010)
196-25	25	38.10 (1.50)	30.48 (1.200)	± .25 (.010)
196-26	26	39.37 (1.55)	31.75 (l 250)	±.25 (.010)
196-34	34	49.53 (1.95)	41.91 (1.650)	±.25 (.010)
196-37	37	53.34 (2.10)	45.72 (1.800)	±.38 (.015)
196-40	40	57.15 (2.25)	49.53 (1.950)	±.38 (.015)
196-50	50	69.85 (2.75)	62.23 (2.450)	± .38 (.015)
196-60	60	82.55 (3.25)	74.93 (2.950)	±.38 (.015)
196-64	64	87.63 (3.45)	80.01 (3.150)	±.38 (.015)

.050" Pitch Twisted Pair Flat Cable

Series 200 – 28 AWG (7/36) Stranded



LL53375 E41651

Physical Properties

Insulation material: PVC
Conductors: 28 AWG (7/36), Stranded
Conductor Spacing mm (in): 1.27 (.050)

Electrical Properties

Voltage rating: 300V rms
Impedance: 100 Ohms
Capacitance @ 1 MHz: (16.0 pF/ft.)
Propogation delay: (1.56 nSec/ft.)

Environmental Properties

Temperature rating: 80° C

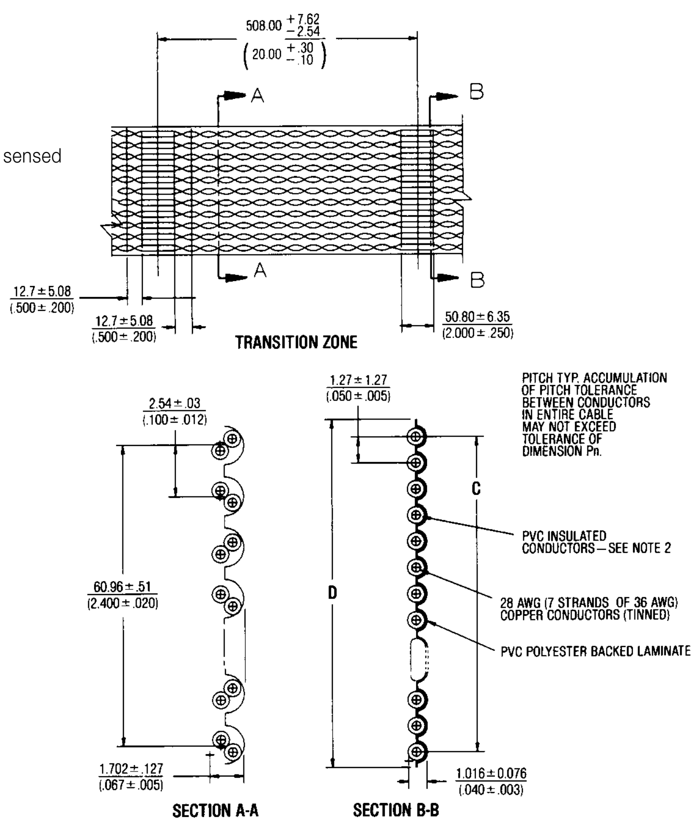
Typical Crosstalk Characteristics: 10FT Sample, 1 line driven, 1 line sensed

Test Method	G-S-G	G-G-S-G-G
Rise Time nSec	3.0	7.0
Near End (%)	6.3	3.8
Far End (%)	7.5	4.0

UL Style No. 20634

UL94VW-1 Compliant

NOTES:
1. Adjacent pairs are twisted in opposite direction.
2. Color code: Alternating brown, red, orange, yellow, green, blue, violet, gray, white, black, then repeated. Each color lead paired with a tan (common).
3. This cable is listed under U.L. style #20634 at 300V and 80° C.



Ordering Information

CATALOG NUMBERS	NUMBER OF CONDUCTORS (PAIRS)	DIMENSIONS IN MM (INCHES) C	D
200-10A	10 (5)	11.43 ± 0.08 (0.45 ± 0.010)	12.29 ± 0.40 (.484 ± 0.016)
200-14A	14 (7)	16.51 ± 0.25 (0.65 ± 0 010)	17.37 ± 0.40 (.684 ± 0.016)
200-16A	16 (8)	19.05 ± 0.25 (0.75 ± 0.010)	19.91 ± 0.40 (.784 ± 0.016)
200-20A	20 (10)	24.13 ± 0.25 (0.95 ± 0.010)	24.99 ± 0.40 (.984 ± 0.016)
200-24A	24 (12)	29.21 ± 0.25 (1.15 ± 0.010)	30.07 ± 0.40 (1.184 ± 0.016)
200-26A	26 (13)	31.75 ± 0.25 (1.25 ± 0.010)	32.61 ± 0.40 (1.284 ± 0.016)
200-34A	34 (17)	41.91 ± 0.35 (1.65 ± 0.014)	42.77 ± 0.53 (1.684 ± 0.021)
200-36A	36 (18)	44.45 ± 0.35 (1.75 ± 0.014)	45.31 ± 0.53 (1.784 ± 0.021)
200-40A	40 (20)	49.53 ± 0.35 (1.95 ± 0.014)	47.85 ± 0.53 (1.884 ± 0.021)
200-50A	50 (25)	62.23 ± 0.35 (2.45 ± 0.014)	63.09 ± 0.53 (2.484 ± 0.021)
200-60A	60 (30)	74.93 ± 0.35 (2.95 ± 0.014)	75.79 ± 0.53 (2.984 ± 0.021)
200-64A	64 (32)	80.01 ± 0.35 (3.15 ± 0.014)	80.87 ± 0.53 (3.184 ± 0.021)

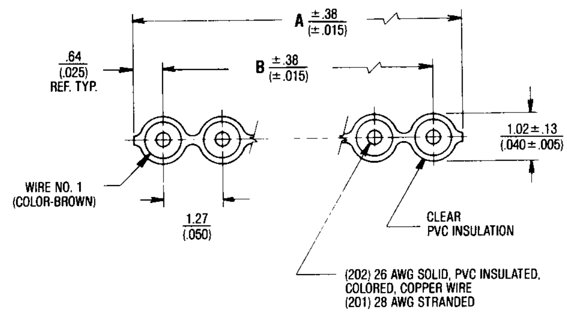
.050" Pitch Color Coded Flat Cable

Series 201 – 28 AWG (7/36) Stranded
Series 202 – 26 AWG Solid



LL53375 E41651

Physical Properties	201	202
Insulation material:	PVC	PVC
Conductors:	28 AWG, Stranded	26 AWG, Solid
Conductor Spacing mm (in):	1.27 (.050)	
Electrical Properties		
Voltage rating:	300V rms	300V rms
Insulation resistance:	>10^{10} Ohms	>10^{10} Ohms
Impedance:	100 Ohms	103 Ohms
Capacitance @ 1 MHz:	(14.0 pF/ft.)	(13.5 pF/ft.)
Inductance @ 1 MHz:	(.14 µH/ft.)	(.14 µH/ft.)
Propogation delay:	(1.38 nSec/ft.)	(1.38 nSec/ft.)
Environmental Properties		
Temperature rating:	105° C	105° C



Typical Crosstalk Characteristics: 10FT Sample, 1 line driven, 1 line sensed

Test Method	G-S-G	G-G-S-G-G
Rise Time nSec	3.0	7.0
Near End (%)	5.0	3.2
Far End (%)	6.7	2.7

UL Style No. 20067

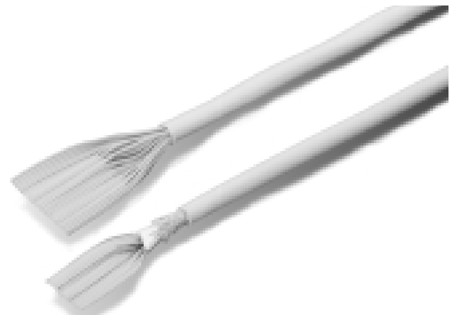
UL94VW-1 Compliant

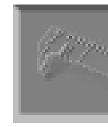
Wire Color Sequence (Repeat Conductor Numbers) Conductor Number	Color
1	Brown
2	Red
3	Orange
4	Yellow
5	Green
6	Blue
7	Violet
8	Gray
9	White
10	Black

Ordering Information

Number of Conductors	Series 201 28 Gauge Stranded	Series 202 26 Gauge Solid	Dimensions in mm (inches) A	B
9	201-9	–	11.43 (.450)	10.16 (.400)
10	201-10	–	12.70 (.500)	11.43 (.450)
14	201-14	202-14	17.78 (.700)	16.51 (.650)
15	201-15	–	19.05 (.750)	17.78 (.700)
16	201-16		20.32 (.800)	19.05 (.750)
20	201-20	–	25.40 (1.000)	24.13 (.950)
24	201-24	202-24	30.48 (1.200)	29.21 (1.150
25	201-25	–	31.75 (1.250)	30.48 (1.200)
26	201-26	–	33.02 (1.300)	31.75 (1.250)
34	201-34		43.18 (1.700)	41.91 (1.650)
36	201-36	202-36	45.72 (1.800)	44.45 (1.750)
37	201-37	–	46.99 (1.850)	45.72 (1.800)
40	201-40	–	50.80 (2.000)	49.53 (1.950)
44	201-44	–	55.88 (2.200)	54.61 (2.150
50	201-50	202-50	63.50 (2.500)	62.23 (2.450i
56	201-56	–	71.12 (2.800)	69.85 (2.750)
60	201-60	–	76.20 (3.000)	74.93 (2.950
64	201-64		81.28 (3.200)	80.01 (3.150)

NOTES: Unless otherwise specified:
1. 202-XX to be used with micro-ribbon connectors, catalog numbers 622-XXM, F or FA. Consult factory for use with other connectors.





.050" Pitch Round-To-Flat Cable

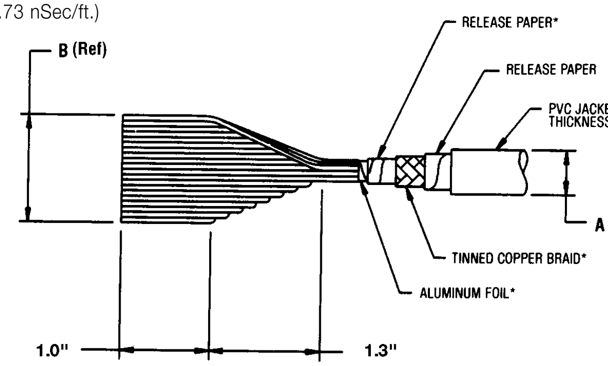
Series 300 – 28 AWG (7/36) Stranded—Shielded
Series 301 – 28 AWG (7/36) Stranded—Non-Shielded

LL53375 E41651

Physical Properties	**300**	**301**
Insulation material:	PVC	PVC
Conductors:	28 AWG, Stranded—Shielded	28 AWG, Stranded—Non-Shielded
Conductor Spacing mm (in):	1.27 (.050)	
Electrical Properties		
Voltage rating:	300V rms	300V rms
Impedance:	57 Ohms	63 Ohms
Capacitance @ 1 MHz:	92.2 pF/m (36.3 pF/ft.)	80.5 pF/m (31.7 pF/ft.)
Inductance @ 1 MHz:	.30 µH/m (.120 µH/ft.)	.33 µH/m (.129 µH/ft.)
Propogation delay:	4.5 nSec/m (1.79 nSec/ft.)	4.4 nSec/m (1.73 nSec/ft.)
Distance Between Flat Sections:	2.25"	2.25"
Environmental Properties		
Temperature rating:	80° C	80° C

Packaging

Standard: Splice free 100 foot rolls with UL/CSA markings on reels
Optional: Other roll quantities and labeling options available. See page 129 for details.



UL Style No. 20267

UL94VW-1 Compliant

Features

- PVC jacket prevents damage in external applications
- Round cross-section allows maximum system airflow
- Shielding braid provides EMI / RFI protection
- Alternating flat and slit sections along cable length allow mass termination of IDC connector without the need for lamination or lacing equipment

Ordering Information

NO. OF CONDUCTORS	SHIELDED CABLE	DIMENSIONS IN MM (INCHES) A	B	C	NON-SHIELDED CABLE	DIMENSIONS IN MM (INCHES) A	B	C
9	300-09	7.0 (0.27)	11.43 (0.45)	0.8 (0.03)	301-09	6.5 (0.26)	11.43 (0.45)	0.8 (0.03)
10	300-10	7.0 (0.27)	12.70 (0.50)	0.8 (0.03)	301-10	6.5 (0.26)	12.70 (0.50)	0.8 (0.03)
14	300-14	7.5 (0.29)	17.78 (0.70)	0.8 (0.03)	301-14	7.0 (0.28)	17.78 (0.70)	0.8 (0.03)
15	300-15	7.5 (0.29)	19.05 (0.75)	0.8 (0.03)	301-15	7.0 (0.28)	19.05 (0.75)	0.8 (0.03)
16	300-16	8.4 (0.33)	20.30 (0.80)	0.8 (0.03)	301-16	7.9 (0.31)	20.30 (0.80)	0.8 (0.03)
20	300-20	8.5 (0.33)	25.40 (1.00)	0.8 (0.03)	301-20	8.0 (0.31)	25.40 (1.00)	0.8 (0.03)
24	300-24	9.2 (0.36)	30.48 (1.20)	0.8 (0.03)	301-24	7.7 (0.30)	30.48 (1.20)	0.8 (0.03)
25	300-25	9.2 (0.36)	31.75 (1.25)	0.8 (0.03)	301-25	7.7 (0.30)	31.75 (1.25)	0.8 (0.03)
26	300-26	9.8 (0.39)	33.02 (1.30)	0.8 (0.03)	301-26	9.3 (0.37)	33.02 (1.30)	0.8 (0.03)
30	300-30	9.8 (0.39)	38.10 (1.50)	0.8 (0.03)	301-30	9.3 (0.37)	38.10 (l.50)	0.8 (0.03)
34	300-34	10.5 (0.41)	43.20 (1.70)	0.8 (0.03)	301-34	10.0 (0.39)	43.20 (1.70)	0.8 (0.03)
36	300-36	10.6 (0.42)	45.72 (1.80)	0.8 (0.03)	301-36	10.1 (0.40)	45.72 (1.80)	0.8 (0.03)
37	300-37	10.6 (0.42)	47.00 (1.85)	1.0 (0.04)	301-37	10 .1 (0.40)	47.00 (1.85)	0.8 (0.03)
40	300-40	11.3 (0.44)	50.80 (2.00)	1.0 (0.04)	301-40	10.8 (0.43)	50.80 (2.00)	1.0 (0.04)
50	300-50	11.6 (0.45)	63.50 (2.50)	1.0 (0.04)	301-50	11.1 (0.44)	63.50 (2.50)	1.0 (0.04)
60	300-60	13.0 (0.51)	76.20 (3.00)	1.0 (0.04)	301-60	12.5 (0.49)	76.20 (3.00)	1.0 (0.04)
64	300-64	13.5 (0.53)	81.30 (3.20)	1.0 (0.04)	301-64	13.0 (0.51)	81.30 (3.20)	1.0 (0.04)

Prepared (Valve Added)
.050" Pitch Round-to-Flat Cable
Series 203 – 28 AWG (7/36) Stranded—Non-Twisted Pair
Series 204 – 28 AWG (7/36) Stranded—Twisted Pair

LL53375 E41651

UL94VW-1 Compliant

UL Style No. 2517

20X - XX - XX00 - X

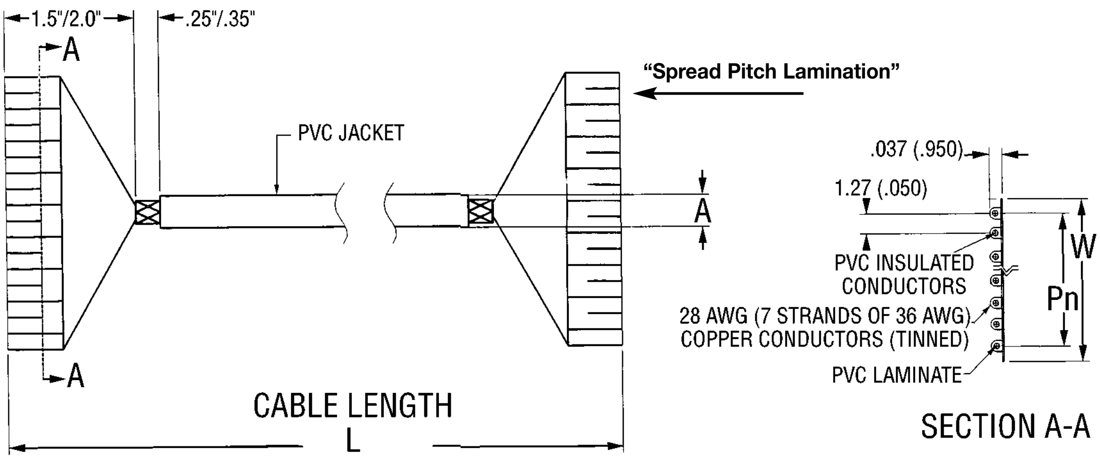
3 – Non-Twisted
4 – Twisted Pair

of Conductors (See Below)

Length In Whole Inches

1 – Shielded
2 – Unshielded

Length In Feet
***02 –** 2 ft long*
***05 –** 5 ft long*
***10 –** 10 ft long*



PITCH TYP. ACCUMULATION OF PITCH TOLERANCE BETWEEN CONDUCTORS IN ENTIRE CABLE MAY NOT EXCEED TOLERANCE OF DIMENSION Pn.

Series 204
Twisted Pair Round-To-Flat Cable

"A" DIAMETER	POSITIONS (PAIRS)	DIMENSIONS Pn	W
.225	10	11.43 (0.45)	12.29 (.484)
.280	14	16.51 (0.65)	17.37 (.684)
.290	16	19.05 (0.75)	19.91 (.784)
.315	20	24.13 (0.95)	24.99 (.984)
.320	24	29.21 (1.15)	30.07 (1.18)
.330	26	31.75 (1.25)	32.61 (1.28)
.365	34	41.91 (1.65)	42.77 (1.68)
.370	36	44.45 (1.75)	45.31 (1.78)
.375	40	49.53 (1.95)	47.85 (1.88)
.425	50	62.23 (2.45)	63.09 (2.48)
.480	64	80.01 (3.15)	81.28 (3.20)

Series 203
Non-Twisted Round-To-Flat Cable

"A" DIAMETER	POSITIONS (PAIRS)	DIMENSIONS Pn	W
.190	9	10.16 (0.40)	11.02 (.434)
.245	14	16.51 (0.65)	17.37 (.684)
.250	15	17.78 (0.70)	18.64 (.734)
.255	16	19.05 (0.75)	19.91 (.784)
.275	20	24.13 (0.95)	24.99 (.984)
.290	24	29.21 (1.15)	30.07 (1.18)
.295	25	30.48 (1.20)	31.34 (1.23)
.300	26	31.75 (1.25)	32.61 (1.28)
.330	34	41.91 (1.65)	42.77 (1.68)
.335	36	44.45 (1.75)	45.31 (1.78)
.340	37	46.74 (1.80)	46.58 (1.83)
.345	40	49.53 (1.95)	47.85 (1.88)
.385	50	62.23 (2.45)	63.09 (2.48)
.440	64	80.01 (3.15)	

Optional Packaging and Labeling for T&B Flat Cable

Reel Length:
Blank—100 Foot
300—300 Foot

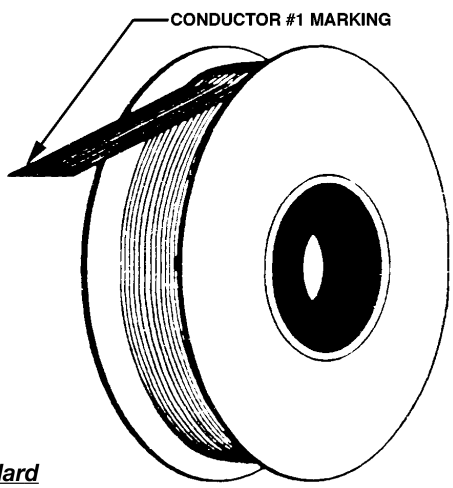
Reel Style:
Blank—Std. Rolls
TB—Tail Option

AAA - BBB - CCC - DDD - EE

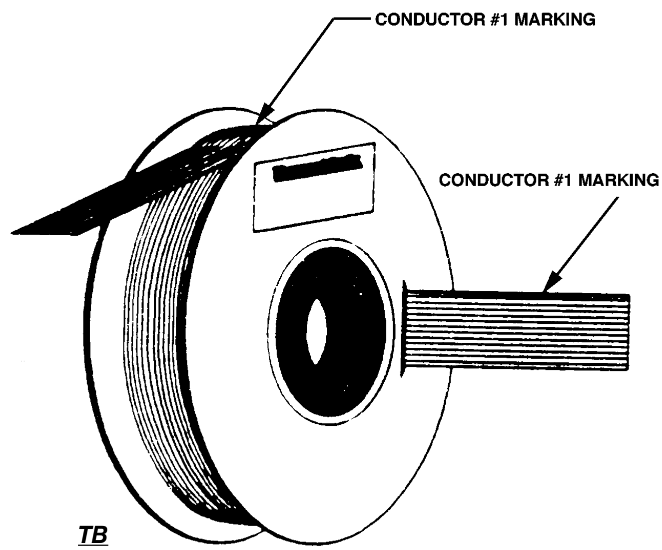
Cable Series

of Positions

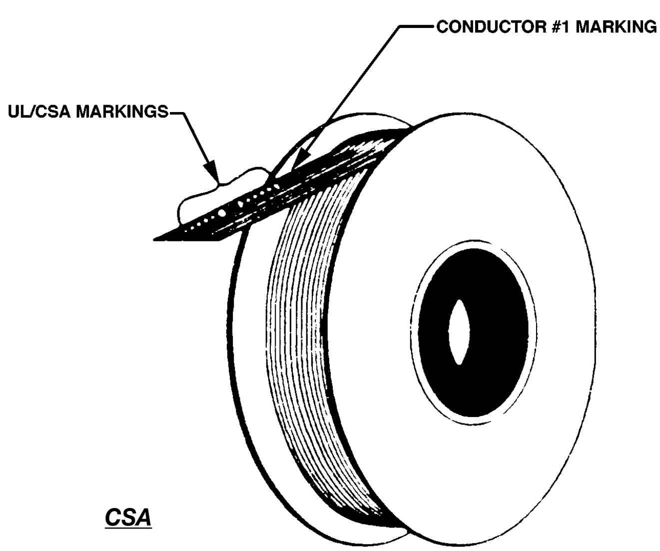
Labeling:
Blank—UL/CSA on reel label only
CSA—UL and CSA marking continuously marked on cable



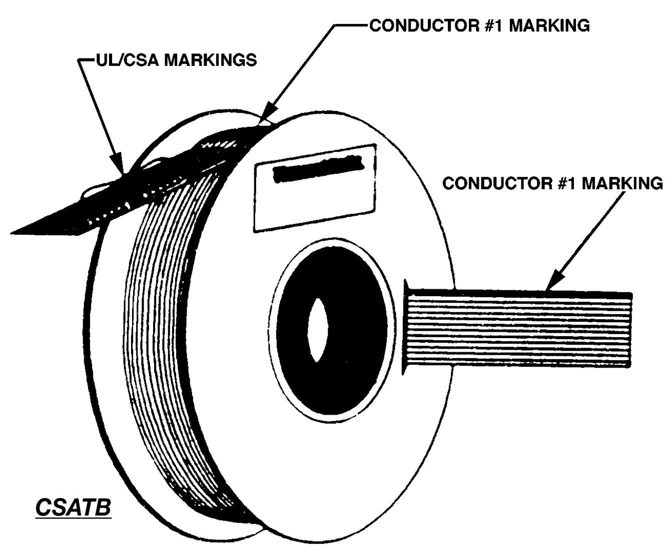
Standard



TB



CSA



CSATB